

SEQUENCE LISTING

<110> DANIELL, HENRY

<120> PRODUCTION OF PHARMACEUTICAL PROTEINS IN TRANSGENIC  
PLASTIDS

<130> 1465-PCT-US-00

<140> 09/807,742

<141> 2001-04-18

<150> PCT/US01/06288

<151> 2001-02-28

<160> 19

<170> PatentIn Ver. 2.1

<210> 1

<211> 1250

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide

<220>

<223> This sequence may encompass 1-250 Gly Val Gly Val Pro  
repeats

<400> 1

Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly  
1 5 10 15

Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val  
20 25 30

Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly  
35 40 45

Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val  
50 55 60

Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro  
65 70 75 80

Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly  
85 90 95

Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val  
100 105 110

Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly  
115 120 125



Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly  
 435 440 445

Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val  
 450 455 460

Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro  
 465 470 475 480

Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly  
 485 490 495

Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val  
 500 505 510

Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly  
 515 520 525

Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val  
 530 535 540

Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro  
 545 550 555 560

Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly  
 565 570 575

Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val  
 580 585 590

Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly  
 595 600 605

Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val  
 610 615 620

Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro  
 625 630 635 640

Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly  
 645 650 655

Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val  
 660 665 670

Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly  
 675 680 685

Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val  
 690 695 700

Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro  
 705 710 715 720

Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly  
 725 730 735

Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val
740	745	750	
Gly Val Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly	
755	760	765	
Val Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	
770	775	780	
Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro
785	790	795	800
Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly
805	810	815	
Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val
820	825	830	
Gly Val Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly	
835	840	845	
Val Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	
850	855	860	
Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro
865	870	875	880
Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly
885	890	895	
Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val
900	905	910	
Gly Val Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly	
915	920	925	
Val Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	
930	935	940	
Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro
945	950	955	960
Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly
965	970	975	
Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val
980	985	990	
Gly Val Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly	
995	1000	1005	
Val Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	
1010	1015	1020	
Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro Gly Val Gly Val	Pro
1025	1030	1035	1040

5

Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly  
1045 1050 1055

Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val  
1060 1065 1070

Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly  
1075 1080 1085

Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val  
1090 1095 1100

Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro  
1105 1110 1115 1120

Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly  
1125 1130 1135

Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val  
1140 1145 1150

Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly  
1155 1160 1165

Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val  
1170 1175 1180

Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro  
1185 1190 1195 1200

Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly  
1205 1210 1215

Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val  
1220 1225 1230

Gly Val Pro Gly Val Gly Val Pro Gly Val Gly Val Pro Gly Val Gly  
1235 1240 1245

Val Pro  
1250

<210> 2  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Illustrative  
endoplasmic reticulum retention signal

<400> 2  
Ser Glu Lys Asp Glu Leu  
1 5

<210> 3  
 <211> 4  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Illustrative peptide

<400> 3  
 Gly Pro Gly Pro  
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<210> 4  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Primer

<400> 4  
 ccgtcgacgt agagaagtcc gtatt

25

<210> 5  
 <211> 27  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Primer

<400> 5  
 gcccatggta aaatcttggt ttattta

27

<210> 6  
 <211> 28  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Primer

<400> 6  
 cctttaaaaa gccttccatt ttctattt

28

<210> 7  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Primer

7

<400> 7  
gccatggtaa aatcttggtt tatta

25

<210> 8  
<211> 12  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Illustrative  
preferred nucleotide sequence

<400> 8  
tttcgtttca gt

12

<210> 9  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
peptide

<400> 9  
Ala Val Gly Val Pro  
1 5

<210> 10  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Illustrative  
peptide

<400> 10  
Glu Asn Leu Tyr Phe Gln Gly  
1 5

<210> 11  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Illustrative  
peptide

<400> 11  
Leu Val Pro Arg Gly Ser  
1 5

<210> 12  
 <211> 6  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: 6-His tag

<400> 12  
 His His His His His His  
 1 5

<210> 13  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Primer

<400> 13  
 aaaacccgtc ctcagttcgg attgc

25

<210> 14  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Primer

<400> 14  
 ccgcgttggt tcatcaagcc ttacg

25

<210> 15  
 <211> 119  
 <212> PRT  
 <213> Escherichia coli

<400> 15  
 Gly Ile Val Pro Gly Val Gly Ile Val Pro Gly Val Gly Ile Val Pro  
 1 5 10 15  
 Gly Val Gly Ile Val Pro Gly Val Gly Ile Val Pro Gly Val Gly Ile  
 20 25 30  
 Val Pro Gly Val Gly Ile Val Pro Gly Val Gly Ile Val Pro Gly Val  
 35 40 45  
 Gly Ile Val Pro Gly Val Gly Ile Val Pro Gly Val Gly Ile Val Pro  
 50 55 60  
 Gly Val Gly Ile Val Pro Gly Val Gly Ile Val Pro Gly Val Gly Ile  
 65 70 75 80



Val Pro Gly Val Gly Ile Val Pro Gly Val Gly Ile Val Pro Gly Val  
85 90 95  
Gly Ile Val Pro Gly Val Gly Ile Val Pro Gly Val Gly Ile Val Pro  
100 105 110  
Gly Val Gly Val Pro Gly Val  
115

<210> 16  
<211> 260  
<212> DNA  
<213> Homo sapiens

<400> 16  
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gaacgagggt tcttctacac acccaagacc cgccgggagg cagaggacct gcagggtggg 120  
cagggtggagc tgggcggggg ccctgggtgca ggcagcctgc agcccttggc cctggagggg 180  
tccctgcaga agcgtggcat tgtggaacaa tgctgtacca gcctctgctc cctctaccag 240  
ctggagaact actgcaacta 260

<210> 17  
<211> 260  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Chloroplast  
modified proinsulin sequence

<400> 17  
ttcgtaaaacc aacacttatg tggttctcac ctagtagaag ctttatactt agtatgtggt 60  
gaacgtgggt tcttctacac tcttaaaact cgtcgtgaag ctgaagattt acaagtaggt 120  
caagtagaat taggtggtg tcttgggtgct ggttctttac aacctttagc tttagaaggt 180  
tctttacaaa aacgtggtat tgtagaacaa tgttgtactt ctatttggtc tttatacaca 240  
ttagaaaact actgtaacta 260

<210> 18  
<211> 210  
<212> DNA  
<213> Homo sapiens

<400> 18  
ggaccggaga cgctctgcgg ggctgagctg gtggatgctc ttcagttcgt gtgtggagac 60  
aggggctttt atttcaacaa gccacagggt tatggctcca gcagtcggag ggcgcctcag 120  
acaggcatcg tggatgagtg ctgcttcggg agctgtgatc taaggagggt ggagatgtat 180  
tgcgaccccc tcaagcctgc caagtcagct 210

<210> 19  
<211> 210  
<212> DNA  
<213> Homo sapiens

<400> 19

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ggtcctgaaa ctttatgtgg tgctgaatta gtagatgctt tacaattcgt atgtggtgat 60
cgtggtttct atttcaacaa acctactggt tacgggttctt cttctcgtcg tgctcctcaa 120
actgggtattg tagatgaatg ttgtttccgt tcttgtgatt tacgtcgttt agaaatgtac 180
tgtgctcctt taaaacctgc taaatctgct                                210
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